

REMARKS

Reconsideration and allowance in view of the foregoing amendment and the following remarks are respectfully requested. Applicants thank the Examiner for the detailed comments in the Advisory Action regarding Applicants arguments. Applicants will make several clarifications and again urge that the present claim set is patentable and in condition for allowance.

Rejection of Claims 1-7, 24-33 and 35-41 Under 35 U.S.C. §103(a)

The Office Action rejects claims 1-7, 24-33 and 35-41 under 35 U.S.C. §103(a) as being unpatentable over Li (U.S. Patent No. 6,275,531) ("Li") in view of Chiu et al. (U.S. Patent No. 6,233,283) ("Chiu et al.") and Masaki et al. (U.S. Patent No. 6,356,309) ("Masaki et al."). Applicants are considering the Examiner's argument in the Advisory Action regarding the discussion about "non-priority frames". As Applicants understand it, the Examiner argues (with regards to the teachings in column 68, lines 24-39 of Masaki et al.) that when the "video frame" is divided into a priority area and non-priority area when, in the error mode, the client device sets the quantization step size for the "non-priority area" to a quantization step size larger than normal or not to perform the coding operation. The Examiner argues that this results in the entire video frame (including the high priority area) being encoded at a lower quality than is generally used for high priority frames since the quantization step size is larger. We respectfully submit that there are several errors in this analysis.

First, there is no teaching in Masaki et al. that the video frame referenced in column 68, lines 24 and 25 is a "high priority" frame. Throughout the reference, there are teachings of an approach to frame dropping and how the system determines when to drop a frame. For example, the first embodiment of the invention, columns 59 and 60, involves the frame dropping controlled portion 161 that compares a predetermined threshold and the amount of information

that the video data calculated in the generated information amount calculated in portion 15. If the threshold is larger, the system performs frame dropping of the video data in the temporary buffer 13. The threshold storage portion 162 is memory which stores the threshold for determining whether to affect frame dropping of the video data in the temporary buffer 13. The frame quantization control portion 163 controls quantization step size according to the frame dropping information from the frame dropping control portion 161. Column 60, line 38 teaches that a video frame inputted from the video input portion 11 is coded in the coding device 12 and stored in the temporary buffer 13. The coding device 12 outputs the quantization step size used to quantize the video frame stored in the temporary buffer 13 to the first quantization control portion 163. The generated information amount calculating portion 15 calculates the amount of generated information for the video data in the temporary buffer 13 on the basis of the temporary buffer storage pointer before storage of the video data and the temporary buffer storage pointer after the video data storage and outputs it to the frame dropping control portion 161.

Then the frame dropping control portion 161 compares the amount of generated information of the video data in the temporary buffer 13 calculated in the generated information amount calculating portion 15 and the predetermined threshold stored in the threshold storing portion 162. If the threshold is larger, it switches the connection of the first SW 14 so that the devices 1-3 are connected. If the threshold is smaller, that is, when the amount of information rapidly increases, the frame dropping control portion 161 switches the connection of the first SW 14 to connect the devices 1-2 so that the video data in the temporary buffer 13 will not be transmitted. When the threshold is smaller, the frame dropping control portion 161 outputs a frame dropping signal indicating that frame dropping of the video data in the temporary buffer 13 is made to the first quantization portion 163.

Applicants are citing and discussing this lengthy portion of column 60 to highlight that the frame dropping control portion does not characterize or teach non-priority frames or high priority frames but just takes each frame independently without referencing a respective frame priority. Applicants submit that this is a feature that permeates Masaki et al. Notably, "the video frame" that has a priority area and non-priority area is not ever taught as being a "high priority frame" as has been asserted in the Advisory Action. In other words, where the video frame taught in Masaki et al. may have a non-priority area that is assigned a quantization step size that is larger than normal, that does not mean that the video frame in which the non-priority area exists, somehow becomes a high priority frame such that when quantization of the overall frame occurs it can be concluded that the quantization step size for the entire video frame is larger. Applicants respectfully submit that such a teaching should not be gleaned from the treatment of priority areas and non-priority areas within a video frame of Masaki et al.

In fact, Applicants would respectfully submit that there are clear teachings against the approach taken by the Examiner. Notably, column 9, line 21 discusses the problem with the third conventional example introduced by Masaki et al. The discussion of this example begins in column 5, line 52. Returning back to column 9, Masaki et al. explain that the problem is that in a video coding device, according to the third conventional example, the priority area and the non-priority area are predetermined and sizes of the areas are constant and unchanged. If movement of the object becomes larger and the amount of generated information increase, or if the communication throughput decreases due to the deterioration of conditions of the communication path, then the quantization accuracy must be lowered by coding control to decrease the amount of generated information. At this time, when the amount of generated information extremely increases or the communication throughput decreases with the size of the priority area unchanged, the quantization accuracy not only for the non-priority area but also for

the priority area must be largely downed, which will considerably damage the video quality of the priority area. Applicants respectfully submit that this is what the Examiner asserts is being taught in column 68 in which the quantization accuracy for the entire frame must be reduced by having a larger quantization step size.

However, Applicants respectfully submit that clearly in discussing the problems of the third conventional example in the introduction of Masaki et al. they explain that this can cause considerable damage to the video quality of the priority area. Accordingly, this certainly supports Applicants argument that in the error mode, increasing the quantization step size for a non-priority area within a video frame does not necessarily support the Examiner's conclusion, namely, that the video frame is somehow deemed a "high priority frame" and that the overall frame is therefore quantized with the quantization step size that is larger than normal.

Applicants respectfully submit that the teachings of Masaki et al. are that where a video frame has been divided into a priority area and a non-priority area that these areas are separately quantized and that the teachings of Masaki et al. requires that, in an error mode, the quantization step size applies only for the non-priority area is set to a quantization step size that is larger than that of the quantization step size determined in the third quantization control portion 12 and sent to the coding device. Applicants respectfully submit that the feature of the third embodiment of the invention Masaki et al. is that the frame is divided into the priority area and the non-priority area that are separately quantized rather than quantized jointly as a video frame. Inasmuch as they are no longer quantized as a video frame, the Examiner's conclusion that when a non-priority area or sub-portion of the video frame is quantized using a quantized step size that is larger than normal, that that necessarily flows to a change to require that the overall frame (which is not taught as a high priority frame) also has a quantization step size that is larger. That is not the case and therefore, Applicants submit that Masaki et al. fail to teach this limitation.

In the next paragraph of the Advisory Action, the Examiner answers Applicants argument that when the video frame is not divided such that there is a priority area and a non-priority area that the video frame is quantized with a quantization step size that is larger than in the error free mode that this actually teaches the invention wherein "the additional high priority are encoding at a lower quality than is generally used for high priority frames since the quantization step size is set larger than normal". It appears that the Examiner is misinterpreting Applicants arguments.

First, where column 7, line 29 teaches that the video frame inputted from the video input portion is quantized with the quantization step size with a quantization step size larger than in the error free mode and provided with an error correction code with high error correcting capability. Applicants also note, in contrast to the Examiner's conclusion, that there is no teaching that that video frame is a "high priority" video frame. As has been noted above, the frames treated by the dropping/quantization control device are not taught as having a high priority or low priority but are merely each processed as set forth in the disclosure without any reference to a priority of the frame. The video frame that is quantized with a quantization step size larger than in the error free mode is assigned that new quantization step size in the error mode. Thus, that quantization step size is made, not for a frame that is taught as being a high priority frame, but for any generic frame and without prioritization. Accordingly, the Examiner is respectfully incorrect in taking Applicants argument which applies to a standard video frame and has misconstrued the teachings as applicable to or teaching that approach is relative to a "high priority" frame. Applicants respectfully submit that there is no reference anywhere in Masaki et al. to any "high priority frame". Thus, Applicants have been particularly focused on the priority area and non-priority areas that are found within a video frame and how quantization occurs within a frame but again reassert and re-establish that there is simply no prioritization of video frames in Masaki et al.

Accordingly, Applicants respectfully submit that we have established a correct interpretation of the scope of the teachings of Masaki et al. relative to treating frame dropping. We have established that the third conventional example introduced by Masaki et al. in which they teach a process to identify the error in quantization accuracy for non-priority areas but also priority areas being reduced that can cause damage to the video quality of the priority area. Accordingly, we believe that the quantization step sizes taught in paragraph 68 are not performed on a frame basis but are performed on an area basis within the video frame. With this correct interpretation of Masaki et al., Applicants submit that the present claims are patentable and in condition for allowance.

Rejection of Claims 8, 34 and 42 Under 35 U.S.C. §103(a)

The Office Action rejects claims 8, 34 and 42 under 35 U.S.C. §103(a) as being unpatentable over Li in view of Chiu et al. and Masaki et al. and further in view of Zhang et al. (U.S. Patent No. 6,816,194) ("Zhang et al."). Applicants submit that these dependent claims are patentable inasmuch as the parent claims are patentable. Applicants do not acquiesce to any combination of references in the Office Action.

CONCLUSION

Having addressed all rejections and objections, Applicants respectfully submit that the subject application is in condition for allowance and a Notice to that effect is earnestly solicited. If necessary, the Commissioner for Patents is authorized to charge or credit the **Law Office of Thomas M. Isaacson, LLC, Account No. 50-2960** for any deficiency or overpayment.

Respectfully submitted,

By: 

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